

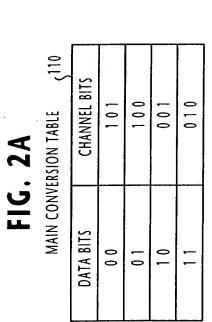
► CHANNEL BITS DSV Controller BUFFER SELECTOR COINCIDENCE DETECTOR SUB-Converter MAIN CONVERTER SHIFT CONTROL SHIFT REGISTER DATA BITS



FIG. 2B

SUB-CONVERSION TABLE DATA BITS CHANN	SION IABLE 5120 CHANNEL BITS
0 0 0 0	101000
0001	100000
1000	00100
1001	010000

POSITION OF DSV CONTROL BIT DATA BITS CONVERSION CHANNEL BITS

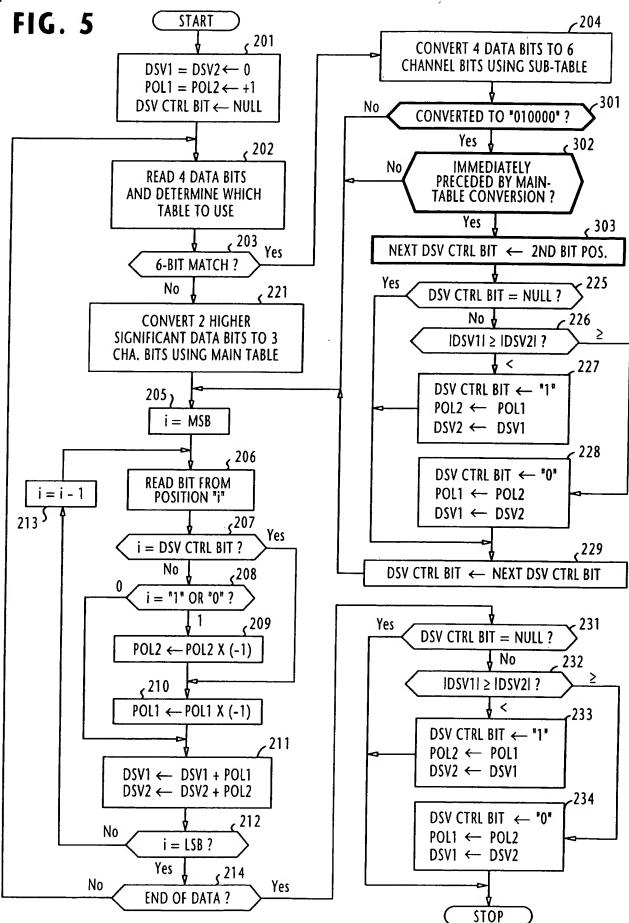


STOP

Title: DATA MODULATION METHOD AND APPARATUS Inventor(s): Kinji KAYANUMA

Appl. No.: 10/642,749 L221 FIG. 3 START **CONVERT 2 HIGHER** , 201 SIGNIFICANT DATA BITS TO 3 SEP 2 3 2003 CHA. BITS USING MAIN TABLE $DSV1 = DSV2 \leftarrow 0$ $POL1 = POL2 \leftarrow +1$ -222 No DSV CTRL BIT ← NULL CONVERTED TO "010"? Yes , 223 , 202 **IMMEDIATELY** No READ 4 DATA BITS PRECEDED BY SUB-AND DETERMINE WHICH TABLE CONVERSION? TABLE TO USE Yes , 224 , 203 NEXT DSV CTRL BIT \leftarrow CENTER BIT POS. No 6-BIT MATCH? Yes Yes , 204 DSV CTRL BIT = NULL? No 4 - 226 CONVERT 4 DATA BITS TO 6 2 CHANNEL BITS USING SUB-TABLE IDSV11 ≥ IDSV21 ? < 227 , 205 DSV CTRL BIT ← "1" POL2 ← POL1 i = MSB $DSV2 \leftarrow DSV1$, 206 - 228 **READ BIT FROM** DSV CTRL BIT \leftarrow "0" i = i - 1POSITION "i" POL1 ← POL2 213 207ج $DSV1 \leftarrow DSV2$ Yes i = DSV CTRL BIT ?,229 No 208 DSV CTRL BIT ← NEXT DSV CTRL BIT i = "1" OR "0"? 209 - 231 Yes DSV CTRL BIT = NULL? $POL2 \leftarrow POL2 \times (-1)$, No 232 210ع IDSV11 ≥ IDSV21? $POL1 \leftarrow POL1 \times (-1)$ ۱ < 233ء DSV CTRL BIT ← "1" 211 POL2 ← POL1 DSV2 ← DSV1 $DSV1 \leftarrow DSV1 + POL1$ $DSV2 \leftarrow DSV2 + POL2$ 234 212 DSV CTRL BIT \leftarrow "0" No POL1 ← POL2 i = LSB? DSV1 ← DSV2 Yes 214ع No Yes END OF DATA?

STEAT & TRANS

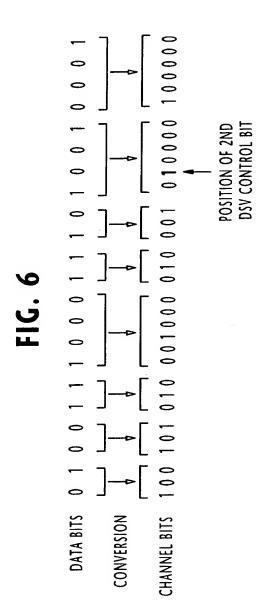




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FIG. 7B



) (111					
MAIN CONVERSION TABLE	CHANNEL BITS	101	100	0 0 1	010
	DATA BITS	0 0	1 0	1 0	11



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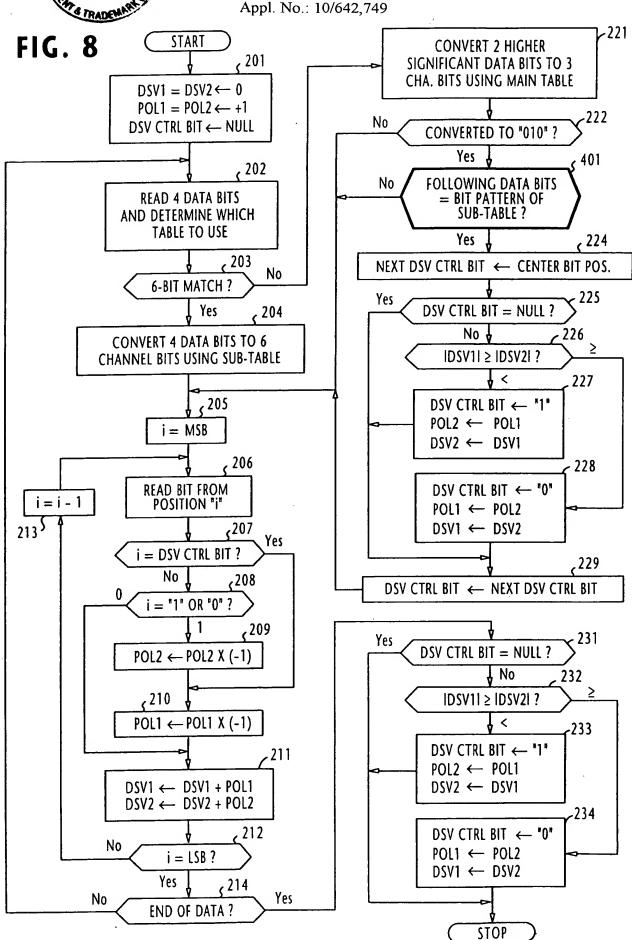




FIG. 9

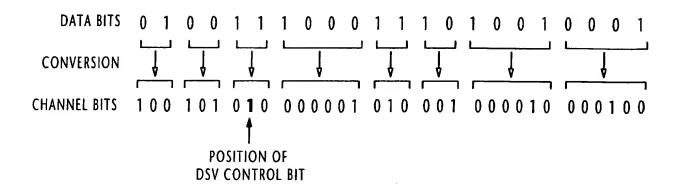
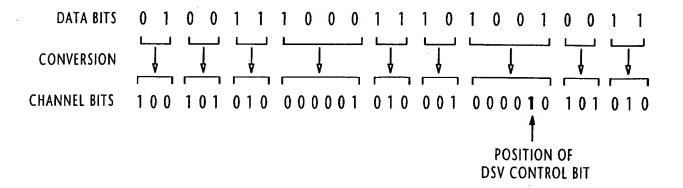
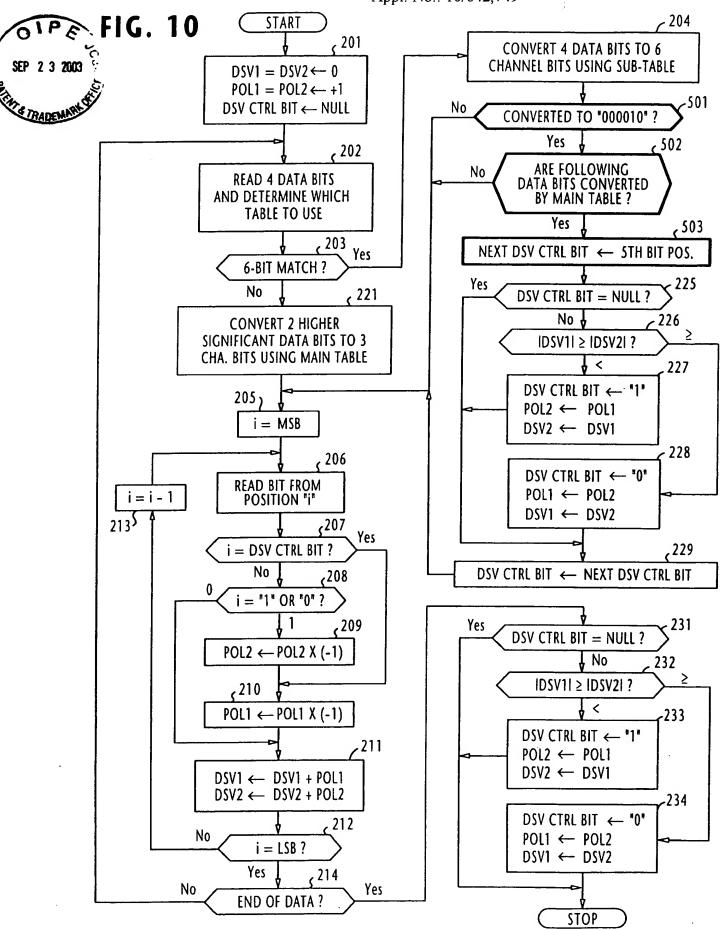


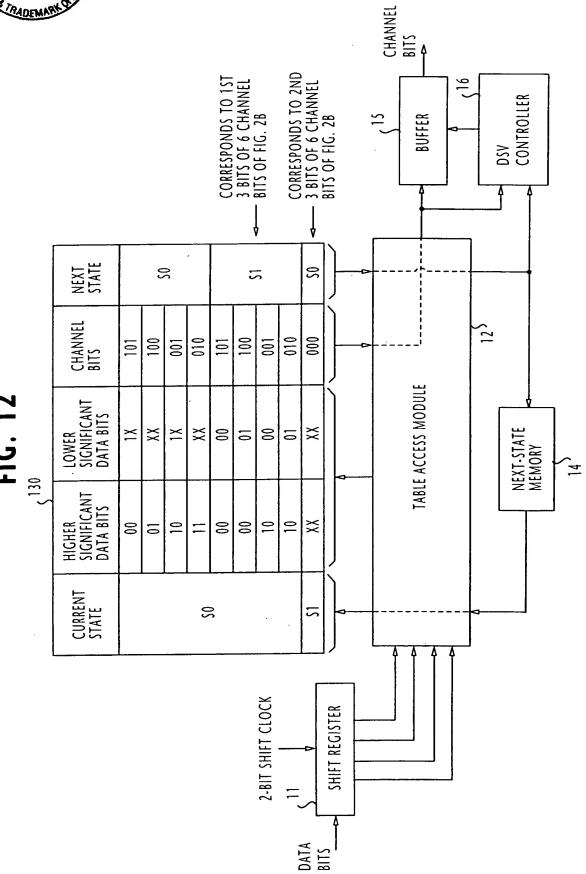
FIG. 11

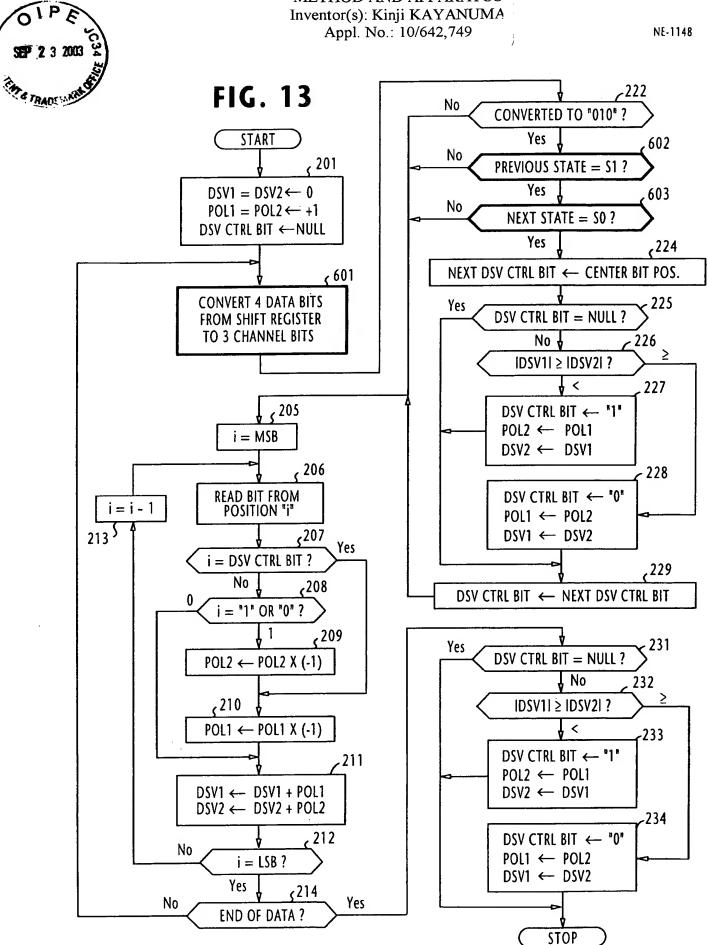


METHOD AND APPARATUS Inventor(s): Kinji KAYANUMA Appl. No.: 10/642,749











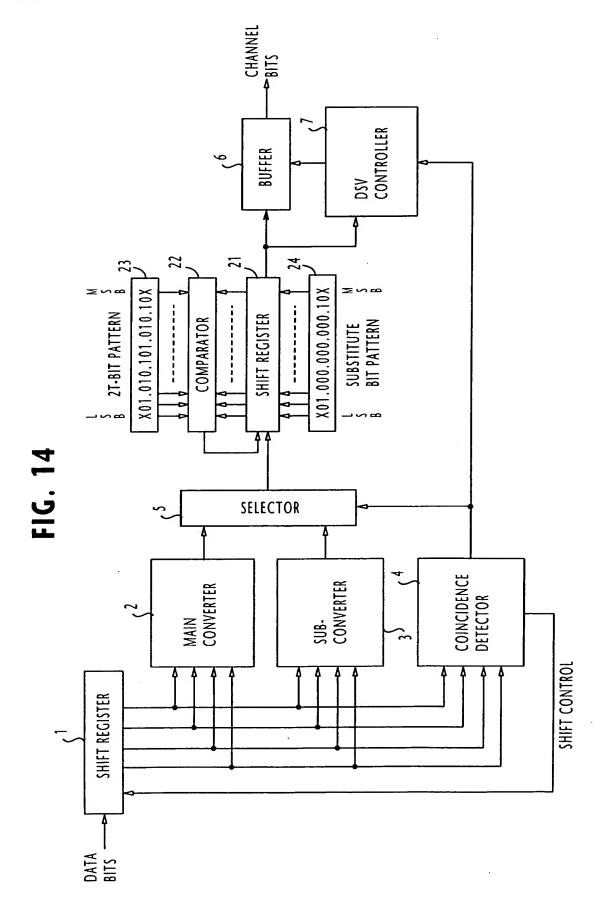
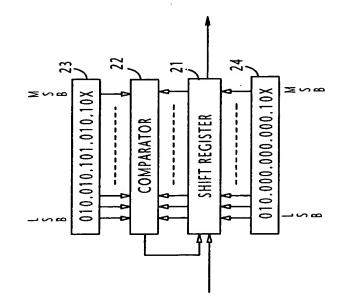
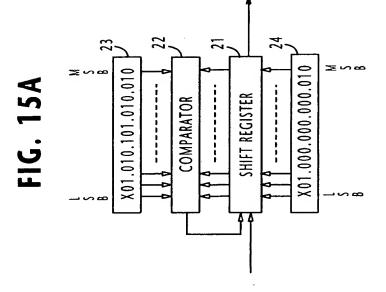




FIG. 15B







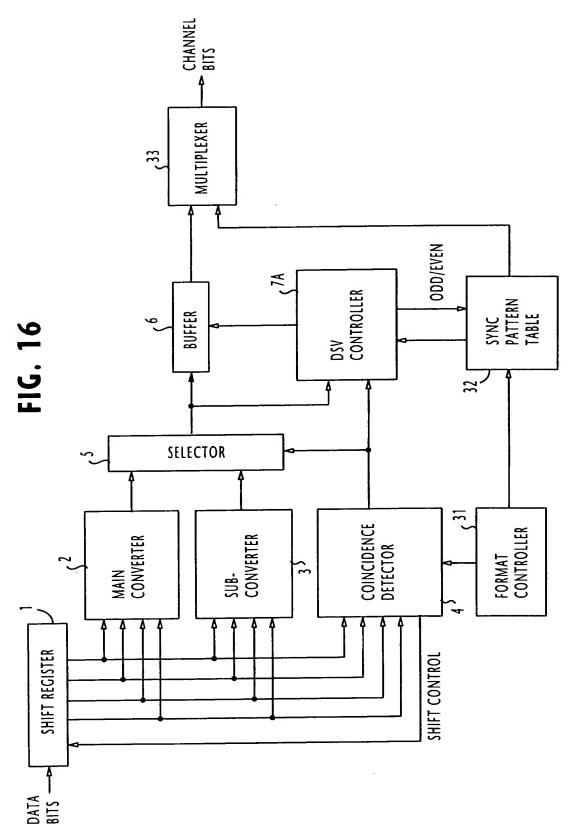




FIG. 1

000	010.000.000.000.001.000.001.000	010.000.000.000.001.000.100.000	010.000.000.000.001.010.100.01.0	010.000.000.000.001.010.010.100	010.000.000.000.000.001.010.101.000	010.000.000.000.001.000.101.010	010.000.000.000.001.010.001.010	010.000.000.000.001.001.010.010
EVEN	010.000.000.000.001.000.001.010	010.000.000.000.001.000.100.010	010.000.000.000.000.001.010.000.010	010.000.000.000.000.001.000.010.00	010.000.000.000.000.001.001.000.100	010.000.000.000.000.001.000.101.000	010.000.000.000.000.001.010.001.000	010.000.000.000.000.001.001.010
	SYO	SY1	SY2	SY3	5 8 4	SYS	SY6	ZAS

Yes

RETURN



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FIG. 18

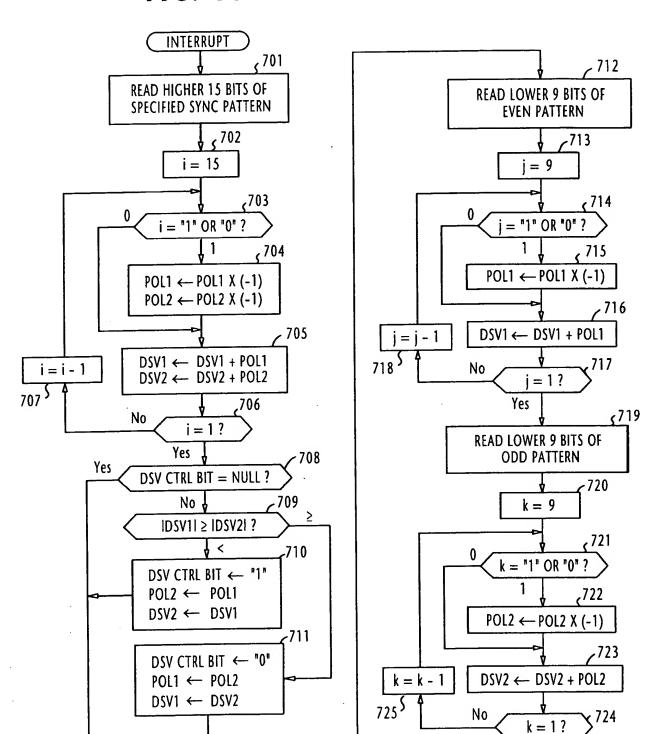
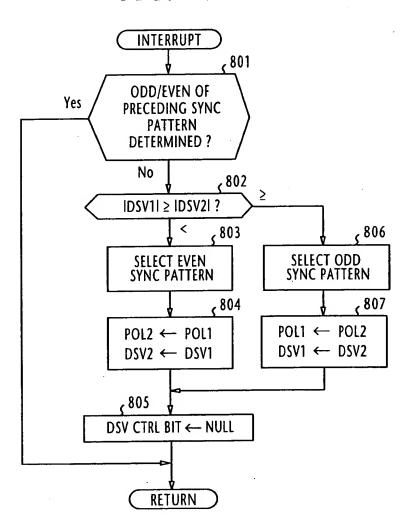




FIG. 19





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